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ADDITIONS TO THE MAMMALIAN FAUNA OF PERU AND NOTES ON SOME OTHER PERUVIAN MAMMALS

By OLIVER P. PEARSON

Museum of Vertebrate Zoology, Berkeley, California

An earlier report discussed the mammals of the highlands, or altiplano, of southern Peru (Pearson, 1951). Subsequent collecting has revealed important additions to the fauna of this area as well as considerable extensions of the range of certain species. I am indebted to Dr. Carl B. Koford, who collected several of the specimens mentioned, for permission to report upon them and to draw upon information in his field notes. All specimens are in the Museum of Vertebrate Zoology, Berkeley.

Hesperomys sorella (Thomas). This species was not listed in the previous report on mammals of the altiplano. Eleven specimens have now been taken in the Department of Puno in bunchgrass terrain at 3 mi. NE Arapa, 12,600 ft., 5 mi. S Asillo, 13,000 ft. and at Hacienda Calacala, 13,000 ft., which is 7 mi. SW Putina. They are longer-tailed, longer-eared, and tawnier than *H. lepidus ducilla*, which also lives in this region, and have shorter, more slanting zygomatic plates. The range of measurements (in mm.) is: total length, 128-147; tail, 60-71; hind foot, 17-19; ear from notch, 18-19; and greatest length of skull, 21.5-23.2. They do not match the type of *sorella* perfectly but seem to be more closely related to that form than to *callosus*, *carillus*, or *frida*.

Since publishing the earlier report in which I used the name *Hesperomys ducilla* for the short-tailed species in southern Peru, I have examined the types of *H. lepidus* (Thomas) and *H. ducilla* (Thomas) and find that despite great difference in age of the in-

dividuals they are quite similar and can easily be included in the same species, characterized by short tails and tall zygomatic plates. Sanborn (1950) also considered *ducilla* to be a subspecies of *lepidus*.

Eligmodontia puculus puculus (Philippi). Four specimens of this desert mouse have been reported from Peru (Pearson, 1951), all from Santa Rosa de Juli, Department of Puno, and were listed as *E. p. hirtipes*, the type locality of which is Lake Poopo in Bolivia. Our recent collections included 11 specimens taken in Peru between 13,000 and 15,300 ft. in the Departments of Moquegua, Puno, and Tacna. These specimens have now been compared with topotypes, in the Chicago Natural History Museum, of *E. p. puculus* from northern Chile and are indistinguishable. *E. p. tarapacensis* Mann has also been described from northern Chile, but the new material reveals that the shape of the zygomatic plate and the bicolored nature of the tail, features on which *tarapacensis* was based primarily, are unreliable. The Peruvian *Eligmodontia* therefore should be *E. p. puculus*.

Phyllotis (Galcomys) gorleppi Thomas. Two specimens of this rare mouse were taken in southern Peru, one at Pichupichuni, 12,600 ft., 5 mi. NW Huacullani, and another at Pampa de Ancomarca, 13,700 ft., 76 mi. S Ilave, both in the Department of Puno. These are the first records of this species from Peru. Since no field measurements have been published and the type specimen has a smashed skull, we record measurements (in mm.) of our two specimens and photographs of one of the skulls (Fig. 1).

	MVZ 115903	MVZ 115907
Total length	129	132
Tail	32	30
Hind foot	23	24
Ear	19	19
Skull greatest length	26.7	27.0
Zygomatic breadth	15.0	15.0
Width of braincase	12.8	13.0
Maxillary toothrow	5.3	5.2

Compared with the type and another Bolivian specimen in the British Museum of Natural History, and one in the Chicago Natural History Museum, the Peruvian specimens are smaller,

have much shorter fur, color much less bright, and shorter ears. Unfortunately both Peruvian specimens are younger, although one was old enough to be pregnant (April 10) and the other estrous (February 1). The Peruvian specimens agree with the

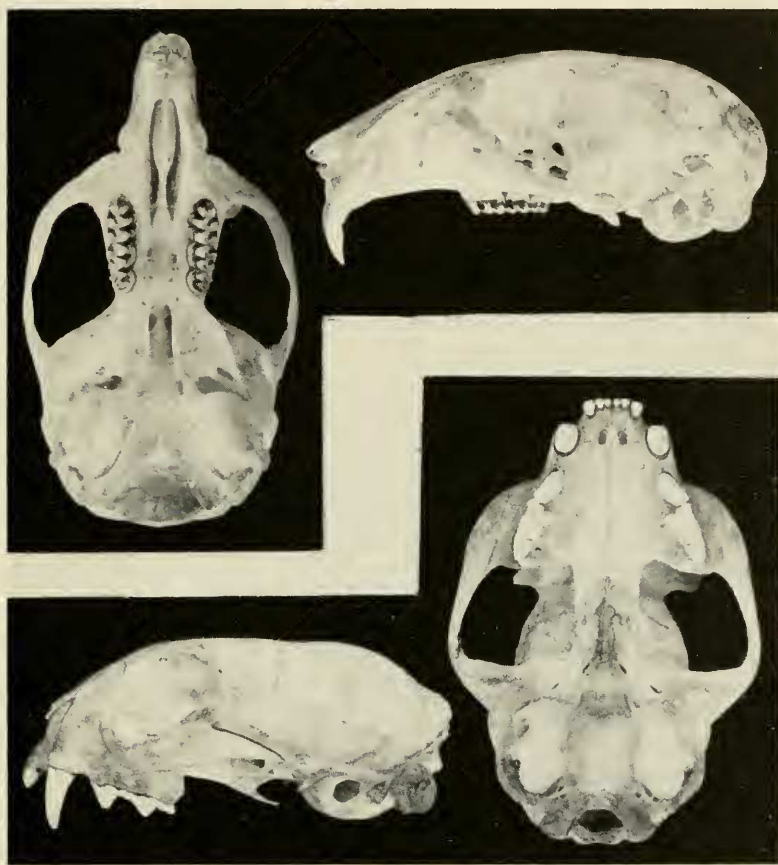


Fig. 1 (above). *Phyllotis (Galenomys) garleppi*; 2.3 x.

Fig. 2 (below). *Felis jacobita*; 0.6 x.

type in these diagnostic features: incisors slender and markedly proodont, anterior border of zygomatic plate distinctly convex and extending almost to the top of the rostrum, and dorsal profile of the skull strongly convex.

One of the specimens was caught in front of a burrow of *Ctenomys peruanus* on a heavily grazed pampa of dwarf grass and prostrate forbs. The other was taken near a stone wall on a similar, grazed pampa on which were also growing scattered thornbushes about one foot tall. *Ctenomys opimus* was living about 100 yards away. Other mammalian associates were *Galca musteloides*, *Akodon jelskii*, *Phyllotis darwini*, *Ph. sublimis*, and *Hesperomys lepidus ducilla*. The last two of these are surprisingly similar in appearance to *garleppi*. *Ph. garleppi* is larger than *ducilla* (total length of *garleppi* more than 120 mm., foot more than 20 mm.) and smaller than most *sublimis* with tail usually shorter (less than 46 mm.) and not bicolor, soles of hind feet more hairy than in *sublimis*. Using Pearson's (1951) key to the rodents of the altiplano west of Lake Titicaca, *Galenomys* keys out as either *Phyllotis osilae*, *Ph. darwini*, or *Akodon amoenus*. All of these have much longer tails than does *garleppi*.

Punomys lemmius Osgood. The range of this rare mouse has been extended considerably by its capture 55 mi. ENE Arequipa, 15,300 ft., Department of Arequipa, and 12 mi. NE Tarata, 14,600 ft., Department of Tacna. These new specimens agree well with those from Caccachara (Pearson, 1951) and with the type.

In addition, nine specimens were taken 8 mi. SSW Limbani, 15,000 ft., Department of Puno. This is 130 miles north of the type locality and separated from it by the grassland of the Titicaca basin. A circuitous strip of more favorable habitat may connect the two regions by way of the mountains to the west and northwest, but no specimens have been taken there. The specimens from near Limbani, like so many forms from this more humid region of the Andes, are distinctly and consistently darker than those from farther south or west. Compared with the type and with the specimens mentioned in the preceding paragraph, the Limbani *Punomys* are greyer and darker on the back, the feet and hands dusker above, ears darker, tail less distinctly bicolor, and belly considerably darker grey with a distinct buffy wash.

The Limbani specimens, as well as those from near Arequipa and Tarata, were captured in barren, broken rock areas and, as at Caccachara, were near fleshy-leaved, pungent *Senecio* plants or piles of *Senecio* cuttings.

Cavia tschudii osgoodi Sanborn. Two species of guinea pigs live on the altiplano of Peru and at some localities probably occur together. *Cavia* (*Galca*) *musteloides* is diurnal (Pearson, 1951) and prefers rather open habitat with good visibility. At Hacienda Calacala the much darker colored *Cavia* (*Cavia*) *tschudii* lived in thick grass where it made distinct runways and was crepuscular. Steel traps set in the runways failed to catch any during the day, but numerous individuals were seen and collected in the evening after sunset and in the early morning.

Lagidium peruanum Meyen. In Peru mountain viscachas have been considered to live only at high altitude. It was a surprise, therefore, to find a small population living in the fog belt, or lomas, at only 2200 ft. at Naña, Department of Lima. The hilltops at Naña support scattered clumps of fog-nourished *Tillandsia* (Bromeliaceae). On the lower slopes there is no vegetation, but there are irrigated fields on the floor of the valley. Among rocks on one of the hilltops were many viscacha seats, which probably accumulate for years in the absence of rain, a few viscacha bones, and at least one living viscacha. This individual was seen at a distance of only 6 feet and appeared to be similar to the mountain viscachas of southern Peru but with more than average buffy color. A maxillary toothrow picked up nearby agrees well with specimens of *Lagidium peruanum*.

This population living more than 6000 ft. lower than any other viscacha population known to me in Peru is isolated by several thousand feet of brushy and weedy terrain unsuitable for viscachas.

Mustela frenata Lichtenstein. Weasels have long been thought to live on the altiplano of Peru but have been inadequately represented by specimens. A mounted skin is now available, taken in the spring of 1951 at Hacienda Calacala, 13,000 ft., 7 mi. SW Putina, Department of Puno.

Grisou (*Grisonella*) *cuja* (Molina). The presence of this mustelid on the altiplano of Peru has heretofore been inadequately documented. We now have the skin and skull of an adult male from Hacienda Pairumani, 13,000 ft., 24 mi. S Ilave, Department of Puno. Measurements (in mm.) are: total length, 570; tail, 145; foot, 70; weight, 1700 grams. This specimen was shot at 4 p.m. with its stomach crammed with at least three mice and a lizard, indicating diurnal feeding.

Felis jacobita Cornalia. The complex taxonomic history of this wildcat (see Osgood, 1943) has been based on a half-dozen skins, many of them without adequate locality information, and on drawings of a single skull (Philippi, 1873). No previous specimens are known from Peru. We now have a skin and skull of a male, trapped March 30, 1952, among rock outcrops at 15,500 ft., 57 mi. ENE Arequipa, Department of Arequipa. This is a barren region of rocks and bare ground with scattered clumps of bunchgrass (*Festuca orthophylla*) and small tola bushes. Other steel traps nearby caught a fox (*Dusicyon culpaeus*) and a mountain caracara (*Phalcobocnus megalopterus*). A mountain lion passed close by several times. Probable prey items in addition to small rodents and small birds were mountain viscachas (*Lagidium*), tinamous (*Tinamotis*), and seed snipe (*Attagis, Thinocorus*). Vicuñas, the young of which might be killed by *jacobita*, were abundant.

The skin matches well the various published descriptions, but several features of the skull, some of them previously considered to be diagnostic, do not match the illustrations in Philippi's report. The auditory bullae of our specimen are not bisected by a deep sulcus; in fact, scarcely a trace of the sulcus shows. Compared to four *Felis pajeros* from southern Peru and northern Chile, the nasals of our *jacobita* are only slightly larger and the incisors not more proodont. The skull of our *jacobita* is slightly flatter and more robust than in *pajeros*, and has larger teeth, but skulls of the two species are not as different in appearance as are those shown in Philippi's illustrations. A possible diagnostic character is the orientation of the upper premolars. In *pajeros* these two teeth on each side, when viewed from below, lie in a straight line. In *jacobita* the anterior premolar toes in abruptly in front. Since no other skulls seem to be available and since our specimen differs considerably from the one seen by Philippi, two photographs are presented in Figure 2. Measurements (in mm.) are: total length, 990; tail, 413; foot, 133; ear, 63; weight, 4.0 kg.; condylobasal length, 96; greatest length of skull, 100; zygomatic breadth, 69.5; greatest length of upper carnassial, 14.0.

The pelage is fluffier and greyer than that of *F. pajeros* and is without a spinal crest of long hairs; the ears are rounded without tufts, and the tail is non-tapering, much longer, and more conspicuously ringed than in *pajeros*.

In southern Peru *Felis jacobita* seems to be much less abundant than *F. pajeros* and probably prefers higher elevations.

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